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E04B 1/70

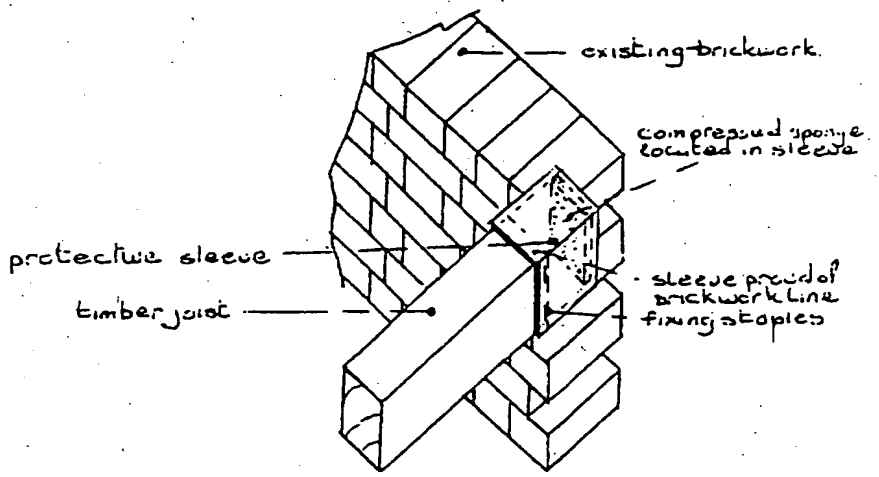
(52) UK CL (Edition O)
E1D DPC D106 D119

(56) Documents Cited
GB 2261235 A **GB 2255112 A** **GB 2237041 A**
GB 2201436 A **GB 2130616 A** **GB 1564752 A**
GB 1289140 A **GB 0525650 A**

(58) Field of Search
UK CL (Edition O) **E1D DPC**
INT CL[6] **E04B**

(54) Protective sleeves for timber joists

(57) A means to protect and preserve the ends of timber joists, whereby a preformed impervious protective sleeve incorporating a sponge containing a measured quantity of wood preservative, in liquid or emulsion form, is used to protect the ends of timber joists or the like from decay; the protective sleeve is placed over the end of the timber joist and the sponge compressed to release the wood preservative. The sleeve is then secured in position by no-ferrous staples or the like. After the protective sleeve has been installed, as before described, the joist can be fixed or re-fixed in its final position; the sleeve has a surface finish able to maintain a level of friction better than that which is normally found to exist between the joists and the materials on which they rest.



PROTECTIVE SLEEVE ATTACHED TO TIMBER JOIST WITH SPONGE IN POSITION FIXED IN FINAL POSITION IN BRICK WALL.

FIG 5

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At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

At least one of these pages has been prepared from an original which was unsuitable for direct photoreproduction.

FIG 1

PROTECTIVE SLEEVE ATTACHED TO TIMBER JOIST WITH STAPLES

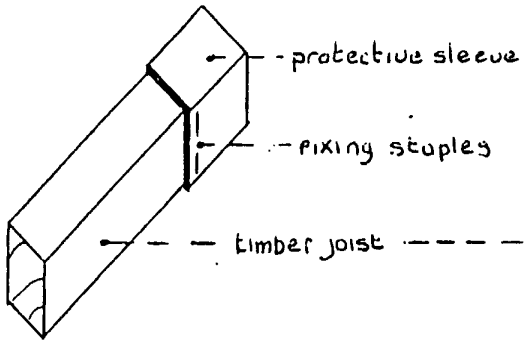
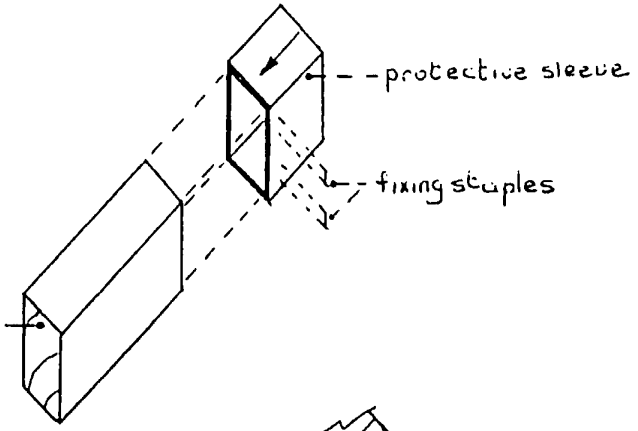


FIG 2

EXPLODED VIEW OF PROTECTIVE SLEEVE & FIXING STAPLES READY FOR ASSEMBLY



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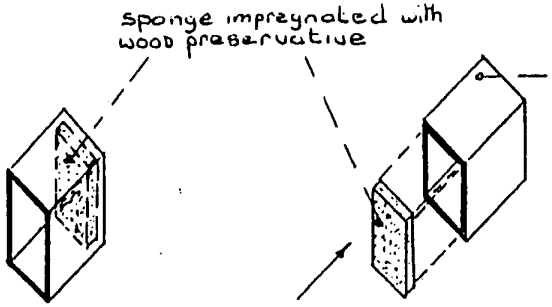
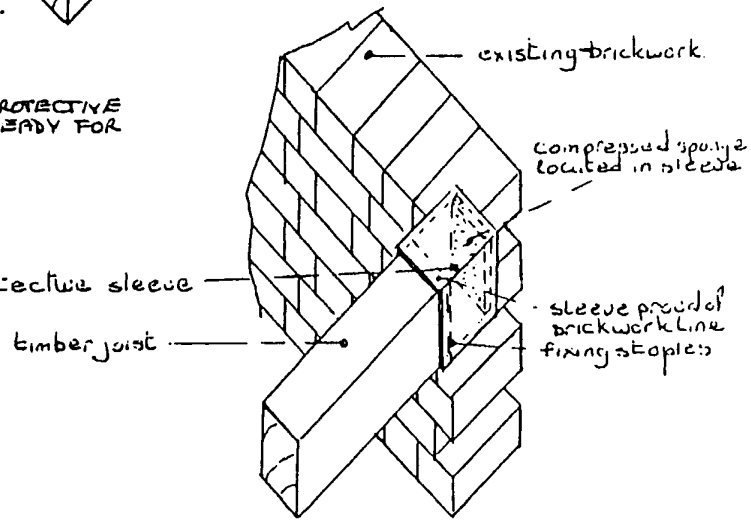
SPONGE IMPREGNATED WITH WOOD PRESERVATIVE INSERTED INTO PROTECTIVE SLEEVE

EXPLODED VIEW OF PROTECTIVE SLEEVE & SPONGE READY FOR ASSEMBLY





PROTECTIVE SLEEVE ATTACHED TO TIMBER JOIST WITH SPONGE IN POSITION FIXED IN FINAL POSITION IN BRICK WALL.

FIG 3

FIG 4

FIG 5

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PATENT SPECIFICATION

A PROTECTIVE SLEEVE

We, David Walter Sibley and Robin Mark Sibley, British Subjects, formerly of 3 Firs End, Southside, Gerrards Cross, Buckinghamshire SL9 8NZ and 9 Kingsash Drive, Hayes, Middlesex UB4 9RG now of 36 Ainsdale Road, Ealing, London W5 1JX and 15 Kilpatrick Way, Hayes Middlesex UB4 9SX. United Kingdom, do hereby declare the invention for which we request that a patent may be granted to us and the methods by which it is performed , to be particularly described in and by the following statements:-

Background

Timber joists, purlins, beams and the like are used extensively in buildings and form an integral part of their structural design. The reliability of timber, as a building material, has been proven over many centuries of use however, timber is very susceptible to fungal decay when the moisture content rises above 16% for appreciable periods.
Current methods of controlling timber decay in traditionally constructed building are :-

(I) chemically treat existing sound timber *insitu*.
(ii) remove and replace defective timber with pre-treated timber.
(iii) remove and/or cut back the ends of affected timbers buried in structural walls and provide an alternative means of support.

Whilst the methods generally described in (i) & (ii) above are necessary and should continue. This invention, as described in the following paragraphs and appended drawings, seeks to provide a simple, effective, practical and economic alternative to (iii) above which involves building techniques devised to ensure that replacement timbers are not reinstated into existing structural walls. These alternatives can be very expensive and time consuming and in many cases require a degree of re-design to maintain the structural integrity of the building.

Specification

According to the present invention there is provided an impervious Protective Sleeve made of an approved material with a surface finish able to maintain a level of friction equal to or better than that which is normally found to exist between timber joists and the materials upon which they rest The Sleeve incorporates a sponge impregnated with a wood preservative, in liquid or emulsion form, which will transmit the preservative to the end grain of the timber. (alternatively the ends of the joists can be treated by dipping or brushing on a wood preservative) Once the sleeve is in position the timber joist can be fixed or refixed into or abutting a structural wall.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which:-

Fig 1. shows, in perspective, the Protective Sleeve installed in position on a timber joist secured by non-ferrous staples or the like.

Fig 2. illustrates the separation of the Protective Sleeve from a timber joist.

Fig 3. shows a sponge incorporating a wood preservative inserted into the Protective Sleeve.

Fig 4. illustrates the separation of the sponge from the Protective Sleeve.

Fig 5 shows the timber joist in its final position with the Protective Sleeve and sponge attached.

Referring to (fig 1) the Protective Sleeve, comprising a pre-formed impervious membrane incorporating a removable sponge as previously described, is secured onto the end of a timber joist by non- ferrous staples or the like.
In order to fit the sleeve in position, the sponge is inserted into the sleeve and placed in position against the rear end (figs 3 & 4) . The timber is then raised at one end and the Protective Sleeve slid over the end of the joist (figs 1 & 2). The Protective Sleeve is then pressed and held against the end of the timber member compressing the sponge thus releasing the wood preservative into the end grain. The Protective Sleeve is then secured to the timber joist by way of non-ferrous staples or the like (fig 1). The joist is then fitted into its final position (fig 5).

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Claims

1. A Protective Sleeve comprising a preformed impervious membrane to be supported on stone, brick, steel or the like, wall or pillar, an optional sponge incorporating a wood preservative in liquid or emulsion form, a means of transferring the wood preservative to the end grain of a timber joist, a means of securing the Protective Sleeve to a timber joist and a means of maintaining a level of friction between a timber joist, equal to or better than that which is normally found to exist between timber joists and the materials upon which they rest.

2. A Protective Sleeve as claimed in Claim 1 wherein an impregnated sponge is provided to retain a measured quantity of wood preservative in liquid or emulsion form to treat the end grain of a timber joist.

3. A Protective Sleeve as claimed in Claim 1 or Claim 2 wherein means are provided to transfer wood preservative to the end grain of a timber joist from an impregnated sponge

4. A Protective Sleeve as claimed in Claim 1 wherein non-ferrous means are provided to secure the Protective Sleeve to a timber joist.

5. A Protective Sleeve as claimed in Claim 1 wherein the Protective Sleeve will be made of an approved impervious material with a surface finish able to maintain a level of friction, better than or equal to, that which is normally found to exist between timber joists and the materials upon which they rest.

6. A Protective Sleeve substantially as described herein with reference to Figs 1 - 5 of the accompanying drawings

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Amendments to the claims have been filed as follows

Claims

1. A protective sleeve for a joist to be supported on stone, brick, steel or the like, wall or pillar, the sleeve having a surface finish able to maintain a level of friction equal to or better than that which is normally found to exist between timber joists and the materials upon which they rest, the sleeve including a sponge means incorporating a wood preservative in liquid or emulsion form, adapted to transmit the preservative to the end grain of the timber.

2. A protective sleeve as claimed in Claim 1 wherein an impregnated sponge means is provided to retain a measured quantity of wood preservative in liquid or emulsion form to treat the end grain of a timber joist.

3. A sleeve as in claim 1, including means to secure it to a timber joist.

4. A sleeve as in claim 3, wherein the securing means are non-ferrous staples.

5. A sleeve as in claim 1, adapted to transmit the preservative to the end grain by compression of the sponge means.

6. A Protective Sleeve substantially as described herein with reference to Figs 1 - 5 of the accompanying drawings

The Patent Office

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Application No: GB 9625044.4 **Examiner:** J D Cantrell
Claims searched: 1 - 6 **Date of search:** 18 December 1996

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): E1D: DPC

Int Cl (Ed.6): E04B

Other:

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2261235 A	SHILLABEER	1,5
X	GB 2255112 A	USHER	1,5
X	GB 2237041 A	SIBLEY	ALL
X	GB 2201436 A	HARMER	1,5
X	GB 2130616 A	SYMCOX	1,5
X	GB 1564752	GRINDROD	1,5
X	GB 1289140	STEEL	1,5
X	GB 525650	KEILLOR	1,5

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

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